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and Features  
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NEWS EXPRESS FEBRUARY 15 10 CURRENT WINDOWS VERSION IS V8.4.2,  
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FULL ESTIMATED COST	0.22	0.22

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DICTIONARY FILE UPDATES: 28 MAY 2010 HIGHEST RN 1225650-87-2

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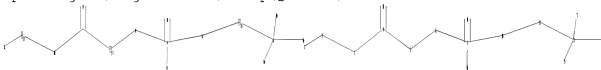
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=>

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chain nodes :  
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
chain bonds :  
1-2 2-3 3-4 4-5 4-8 5-6 6-7 7-9 7-10 7-16 10-11 11-12 12-13 12-14  
12-15  
exact/norm bonds :  
2-3 3-4 4-8 5-6 6-7 7-9 7-10 7-16 10-11 11-12  
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Match level :

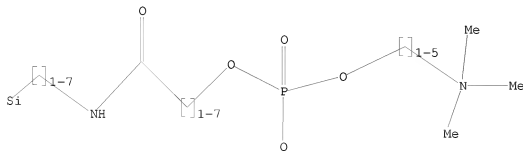
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS  
10:CLASS 11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS

L1 STRUCTURE UPLOADED

=&gt; D L1

L1 HAS NO ANSWERS

L1 STR



Structure attributes must be viewed using STN Express query preparation.

=&gt; S L1 FULL

FULL SEARCH INITIATED 14:18:38 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 54 TO ITERATE

100.0% PROCESSED 54 ITERATIONS

4 ANSWERS

SEARCH TIME: 00.00.01

L2 4 SEA SSS FUL L1

=&gt; FILE CAPLUS

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

191.54

191.76

FILE 'CAPLUS' ENTERED AT 14:18:51 ON 29 MAY 2010

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 FILE LAST UPDATED: 28 May 2010 (20100528/ED)  
 REVISED CLASS FIELDS (/NCL) LAST RELOADED: Apr 2010  
 USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Apr 2010

Casplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2010.

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> S L2

L3 13 L2

=> S L3 AND SURFACE

3017140 SURFACE  
 L4 12 L3 AND SURFACE

=> S L4 AND GLASS

875613 GLASS  
 L5 5 L4 AND GLASS

=> D L3 IBIB ABS HITSTR 1-13

L3 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2010:411590 CAPLUS

DOCUMENT NUMBER: 152:445173

TITLE: Filler for hydrophilic interaction chromatography

INVENTOR(S): Kanda, Taketoshi; Igarashi, Yasuo; Sakuma, Kenichi; Tojo, Yosuke

PATENT ASSIGNEE(S): Shiseido Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 20pp.; Chemical Indexing

Equivalent to 152:396535 (WO)

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2010071707	A	20100402	JP 2008-237364	20080917
WO 2010032349	A1	20100325	WO 2009-JP2514	20090604
W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BH, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

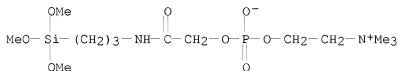
PRIORITY APPLN. INFO.: JP 2008-237364 A 20080917

AB Disclosed are a filler which exhibits extremely excellent hydrophilic interaction, and a separation method. Specifically disclosed is a filler for hydrophilic interaction chromatog., which is composed of a modified carrier processed with a surface modifying agent represented by  $X1X2X3Si-(CH2)m-NH-CH2-CH2-O-P(=O)(-O-)-O-(CH2)n-N+(CH3)3$  or  $X1X2X3Si-(CH2)m-NH-C(=O)-CH2-O-P(=O)(-O-)-O-(CH2)n-N+(CH3)3$ . [m = 2-6 integer, n = 1-4 integer; X1, X2, and X3 = methoxy, ethoxy, and halo; up to two of X1, X2 and X3 may be Me, Et, Pr, iso-Pr, Bu and iso-Bu groups].

IT 853798-53-5P 1217898-35-5P  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(surface modifier for silica particles; filler for hydrophilic  
interaction chromatog.)

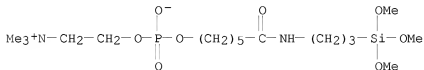
RN 853798-53-5 CAPLUS

CN 3,5,13-Trioxa-8-aza-4-phospha-12-silatetradecan-1-aminium,  
4-hydroxy-12,12-dimethoxy-N,N,N-trimethyl-7-oxo-, inner salt, 4-oxide (CA  
INDEX NAME)



RN 1217898-35-5 CAPLUS

CN 3,5,17-Trioxa-12-aza-4-phospha-16-silaooctadecan-1-aminium,  
4-hydroxy-16,16-dimethoxy-N,N,N-trimethyl-11-oxo-, inner salt, 4-oxide  
(CA INDEX NAME)



L3 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2010:375335 CAPLUS

DOCUMENT NUMBER: 152:396535

TITLE: Filler for hydrophilic interaction chromatography  
INVENTOR(S): Kanda, Taketoshi; Igarashi, Yasuo; Sakuma, Kenichi;  
Toujo, Yousuke

PATENT ASSIGNEE(S): Shiseido Company, Ltd., Japan

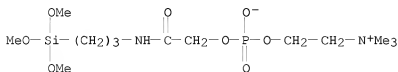
SOURCE: PCT Int. Appl., 40pp.; Chemical Indexing Equivalent to 152:445173 (JP)

CODEN: PIXXD2

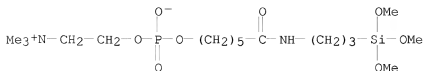
DOCUMENT TYPE: Patent

LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2010032349	A1	20100325	WO 2009-JP2514	20090604
W:	AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW:	AI, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MM, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
JP 2010071707	A	20100402	JP 2008-237364	20080917
PRIORITY APPLN. INFO.:			JP 2008-237364	A 20080917
OTHER SOURCE(S):	MARPAT 152:396535			
AB	Disclosed are a filler which exhibits extremely excellent hydrophilic interaction, and a separation method. Specifically disclosed is a filler for hydrophilic interaction chromatog., which is composed of a modified carrier processed with a surface modifying agent represented by $X1X2X3Si-(CH2)m-NH-CH2-CH2-O-P(=O)(-O-)-O-(CH2)n-N+(CH3)3$ or $X1X2X3Si-(CH2)m-NH-C(=O)-CH2-O-P(=O)(-O-)-O-(CH2)n-N+(CH3)3$ . [m = 2-6 integer, n = 1-4 integer; X1, X2, and X3 = methoxy, ethoxy, and halo; up to two of X1, X2 and X3 may be Me, Et, Pr, iso-Pr, Bu and iso-Bu groups].			
IT	853798-53-5P 1217898-35-5P			
	RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (surface modifier for silica particles; filler for hydrophilic interaction chromatog.)			
RN	853798-53-5 CAPLUS			
CN	3,5,13-Trioxa-8-aza-4-phospha-12-silatetradecan-1-aminium, 4-hydroxy-12,12-dimethoxy-N,N,N-trimethyl-7-oxo-, inner salt, 4-oxide (CA INDEX NAME)			



RN 1217898-35-5 CAPLUS  
 CN 3,5,17-Trioxa-12-aza-4-phospha-16-silaoctadecan-1-aminium, 4-hydroxy-16,16-dimethoxy-N,N,N-trimethyl-11-oxo-, inner salt, 4-oxide (CA INDEX NAME)



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2009:582680 CAPLUS

DOCUMENT NUMBER: 150:517124

TITLE: Surface modifying method for hydrophilicity improvement and surface modified materials therefor

INVENTOR(S): Miyazawa, Kazuyuki

PATENT ASSIGNEE(S): Shiseido Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 19pp.; Chemical Indexing

Equivalent to 150:496450 (WO)

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2009101318	A	20090514	JP 2007-277361	20071025
WO 2009054299	A1	20090430	WO 2008-JP68675	20081015
W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

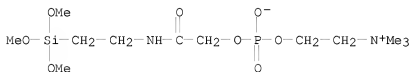
PRIORITY APPLN. INFO.: JP 2007-277361 A 20071025

AB A title method comprises (a) applying a coating containing an alkoxysilane and a polymer having a functional group capable of forming a silanol group by hydrolysis over a member and (b) covering with a coating containing a hydrophilizing agent having silanol group or a functional group capable of forming a silanol group by hydrolysis. A polypropylene plate was soaked in a solution containing Si(OEt)<sub>4</sub>, iso-PrOH, NaOH, and a polymer [from Me methacrylate, 3-methacryloxypropyltriethoxysilane, tris(trimethylsiloxy)silylpropyl methacrylate, and methacryloxyethyltrimethylammonium Cl], dried, spread with a MeOH solution containing Q1(CH<sub>2</sub>)<sub>2</sub>OP(O)(O)-(O-)OCH<sub>2</sub>CONH(CH<sub>2</sub>)<sub>2</sub>Q2 [Q1 = Me<sub>3</sub>N<sup>+</sup>; Q2 = Si(OMe)<sub>3</sub>], and dried to from a plate with water-contact angle 4°, vs., 92°, without the treatment.

IT 1147892-28-1

RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical

process); PROC (Process); USES (Uses)  
 (agent; surface modification using alkoxysilane- and silanol  
 polymer-containing coatings and alkoxysilyl hydrophilic agents)  
 RN 1147892-28-1 CAPLUS  
 CN 3,5,12-Trioxa-8-aza-4-phospha-11-silatridecan-1-aminium,  
 4-hydroxy-11,11-dimethoxy-N,N,N-trimethyl-7-oxo-, inner salt, 4-oxide (CA  
 INDEX NAME)



L3 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 2009:523868 CAPLUS  
 DOCUMENT NUMBER: 150:496450  
 TITLE: Surface modifying method for hydrophilicity  
 improvement and surface modified materials therefor  
 Miyazawa, Kazuyuki  
 INVENTOR(S): Shiseido Company, Ltd., Japan  
 PATENT ASSIGNEE(S): PCT Int. Appl., 32pp.; Chemical Indexing Equivalent to  
 SOURCE: 150:517124 (JP)  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2009054299	A1	20090430	WO 2008-JP68675	20081015
W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GD, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM JP 2009101318 A 20090514 JP 2007-277361 20071025 PRIORITY APPLN. INFO.: JP 2007-277361 A 20071025 AB A title method comprises (a) applying a coating containing an alkoxysilane and a polymer having a functional group capable of forming a silanol group by hydrolysis over a member and (b) covering with a coating containing a hydrophilizing agent having silanol group or a functional group capable of forming a silanol group by hydrolysis. A polypropylene plate was soaked in a solution containing Si(OEt) <sub>4</sub> , iso-PrOH, NaOH, and a polymer [from Me methacrylate, 3-methacryloxypropyltriethoxysilane, tris(trimethylsiloxy)silylpropyl methacrylate, and				



methacryloxyethyltrimethylammonium Cl], dried, spread with a MeOH solution containing Q1(CH<sub>2</sub>)<sub>2</sub>OP(O)(O-)OCH<sub>2</sub>CONH(CH<sub>2</sub>)<sub>2</sub>Q2 [Q1 = Me<sub>3</sub>N<sup>+</sup>; Q2 = Si(OMe)<sub>3</sub>], and dried to from a plate with water-contact angle 4°, vs., 92°, without the treatment.

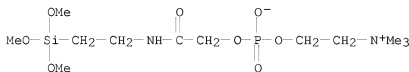
IT 1147892-28-1

RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(agent; surface modification using alkoxysilane- and silanol polymer-containing coatings and alkoxysilyl hydrophilic agents)

RN 1147892-28-1 CAPLUS

CN 3,5,12-Trioxa-8-aza-4-phospha-11-silatridecan-1-aminium, 4-hydroxy-11,11-dimethoxy-N,N,N-trimethyl-7-oxo-, inner salt, 4-oxide (CA INDEX NAME)



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2008:770129 CAPLUS

DOCUMENT NUMBER: 149:79735

TITLE: Preparation of phosphorylcholine group-containing silane compounds

INVENTOR(S): Sakuma, Kenichi

PATENT ASSIGNEE(S): Shiseido Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 17pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008143874	A	20080626	JP 2006-335754	20061213
PRIORITY APPLN. INFO.:			JP 2006-335754	20061213

OTHER SOURCE(S): MARPAT 149:79735

AB X1X<sub>2</sub>X<sub>3</sub>Si(CH<sub>2</sub>)<sub>m</sub>NHCOCH<sub>2</sub>OP(O)(O-)O(CH<sub>2</sub>)<sub>n</sub>N+Me<sub>3</sub> (I; m = 2-5; X1-X<sub>3</sub> = Me, Et, Pr, CHMe<sub>2</sub>, Bu, CH<sub>2</sub>CHMe<sub>2</sub>, OMe, OEt; ≥1 of X1-X<sub>3</sub> = OMe, OEt; n = 1-4), useful as silane coupling agents to impart biocompatibility, protein adsorption-inhibiting property, moisturizing property, etc., are prepared by amidation of X1X<sub>2</sub>X<sub>3</sub>Si(CH<sub>2</sub>)<sub>m</sub>NH<sub>2</sub> (X1-X<sub>3</sub>, m = same as above) with HOCOCH<sub>2</sub>OP(O)(O-)O(CH<sub>2</sub>)<sub>n</sub>N+Me<sub>3</sub> (II; n = same as above) using DMT-MM [4-(4,6-dimethoxy-1,3,5-triazin-2-yl)-4-methylmorpholinium chloride] as the condensing agent. Thus, glycerophosphorylcholine was treated with RMnO<sub>4</sub> in HCl solution at room temperature for 2 h to give II (n = 2). This was condensed with (MeO)<sub>3</sub>Si(CH<sub>2</sub>)<sub>3</sub>NH<sub>2</sub> in MeOH using DMT-MM at room temperature for 3 h to give I (X1-X<sub>3</sub> = OMe, m = 3, n = 2) (III). Introduction of III onto a quartz plate by soaking i in H<sub>2</sub>O/MeOH solution of III at 80° for 2 h significantly decreased adsorption of BSA.

IT 853798-53-5P

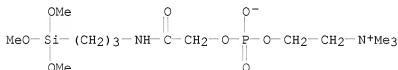
RL: BUU (Biological use, unclassified); IMF (Industrial manufacture); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of phosphorylcholine group-containing silane compds. by amidation

of aminosilanes with carboxy-phosphorylcholines using (dimethoxytriarylmethyl)methylmorpholinium chloride)

RN 853798-53-5 CAPLUS

CN 3,5,13-Trioxa-8-aza-4-phospha-12-silatetradecan-1-aminium, 4-hydroxy-12,12-dimethoxy-N,N,N-trimethyl-7-oxo-, inner salt, 4-oxide (CA INDEX NAME)



L3 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2008:155971 CAPLUS

DOCUMENT NUMBER: 148:252953

TITLE: Phosphorylcholine inner salt compounds for treating glass capillary of electrophoretic device and method of analysis

INVENTOR(S): Takei, Keigo; Miyazawa, Kazuyuki

PATENT ASSIGNEE(S): Shiseido Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 31pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008026286	A	20080207	JP 2006-202529	20060725
PRIORITY APPLN. INFO.:			JP 2006-202529	20060725
OTHER SOURCE(S): MARPAT 148:252953				

AB The title compds. are used on surface of glass capillary, and have structure of R(CH<sub>2</sub>)<sub>m</sub>NHCH<sub>2</sub>CH<sub>2</sub>OP(O-)(O)O(CH<sub>2</sub>)<sub>n</sub>NMe<sub>3</sub> or R(CH<sub>2</sub>)<sub>m</sub>NHC(O)CH<sub>2</sub>OP(O-)(O)O(CH<sub>2</sub>)<sub>n</sub>NMe<sub>3</sub> (R = silyl group bearing alkyl, alkoxy or halogen group; m ≥ 1; n = 1-4; with a proviso). The treatment can improve the separation performance of glass capillary. Thus, periodate oxidizing L-α-glycerophosphorylcholine, reacting the resulting aldehyde compound with 3-aminopropyltrimethoxysilane and reducing gave a product useful for glass surface treatment.

IT 1006059-63-7P

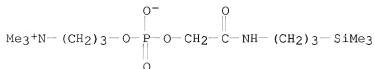
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(manufacture of phosphorylcholine inner salt compds. for treating glass capillary of electrophoretic device and method of anal.)

RN 1006059-63-7 CAPLUS

CN 4,6-Dioxa-9-aza-5-phospha-13-silatetradecan-1-aminium,

5-hydroxy-N,N,N,13,13-pentamethyl-8-oxo-, inner salt, 5-oxide (CA INDEX NAME)



L3 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2007:531837 CAPLUS

DOCUMENT NUMBER: 146:502629

TITLE: Phosphorylcholine group-containing silane couplers for surface treatment after deposition with metal oxide or silica

INVENTOR(S): Miyazawa, Kazuyuki; Hirayama, Aya

PATENT ASSIGNEE(S): Shiseido Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 15pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007119643	A	20070517	JP 2005-315102	20051028
PRIORITY APPLN. INFO.:			JP 2005-315102	20051028

OTHER SOURCE(S): MARPAT 146:502629

AB The silane couplers are compds. having structure of  $\text{X1X2X3Si}(\text{CH}_2)_m\text{NHZOP}(\text{:O})(\text{O-})\text{O}(\text{CH}_2)_n\text{N}^+\text{R1R2R3}$  (m = 2-6; n = 1-4; X1,X2,X3 = MeO, EtO, halogen, provided that  $\leq 2$  of X1, X2 and X3 can be Me, Et, Pr, iso-Pr, Bu, iso-Bu group; R1,R2,R3 = Me; Z = C1-6 alkylene, C(:O)C1-6 alkylene, alkyleneimine group).

IT 853798-53-5P

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)

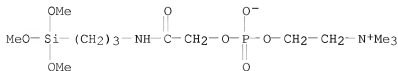
(coupler; manufacture of phosphorylcholine group-containing silane couplers

for

surface treatment after deposition with metal oxide or silica)

RN 853798-53-5 CAPLUS

CN 3,5,13-Trioxa-8-aza-4-phospha-12-silatetradecan-1-aminium, 4-hydroxy-12,12-dimethoxy-N,N,N-trimethyl-7-oxo-, inner salt, 4-oxide (CA INDEX NAME)



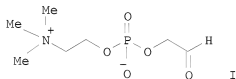
OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD

## (2 CITINGS)

L3 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 2007:458043 CAPLUS  
 DOCUMENT NUMBER: 146:422846  
 TITLE: General-purpose antistatic agents with long-lasting effect and their application on various substrates  
 INVENTOR(S): Miyazawa, Kazuyuki  
 PATENT ASSIGNEE(S): Shiseido Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 15pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007106880	A	20070426	JP 2005-298835	20051013
PRIORITY APPLN. INFO.:			JP 2005-298835	20051013
OTHER SOURCE(S):	MARPAT	146:422846		

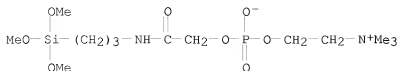
GI



AB The title agents have a formula of  $X(\text{CH}_2)_m\text{OP}(\text{:O})\text{O}-\text{O}(\text{CH}_2)_n\text{N}+\text{R}_1\text{R}_2\text{R}_3$  ( $X = \text{CHO}, \text{CO}_2\text{H}; \text{R}_1-\text{R}_3 = \text{C}_1-6 \text{ alkyl}; m, n = 1-6$ ) or  $\text{X}_1\text{X}_2\text{X}_3\text{Si}(\text{CH}_2)_{m'}\text{R}_4(\text{CH}_2)_{l}\text{OP}(\text{:O})\text{O}-\text{O}(\text{CH}_2)_n\text{N}+\text{R}_1\text{R}_2\text{R}_3$  ( $\text{X}_1-\text{X}_3 = \text{C}_1-6 \text{ alkoxy}, \text{Cl}, \text{H}; \text{R}'_1-\text{R}'_3 = \text{C}_1-6 \text{ alkyl}; \text{R}_4 = \text{sec-amine, amide, ester, urethane, or urea bond}; m', l, n' = 1-6$ ). The agents are directly bonded to substrates (e.g., metals, oxides, inorg. compds., plastics, etc.) or be condensed thereon. Thus, 1- $\alpha$ -glycerophosphorylcholine was reacted with sodium periodate on an ice bath and then reacted with 3-aminopropyltrimethoxysilane in the presence of sodium cyanohydroborate to give I (NMR spectrum given), which was blended with an aminopropyl-modified Zn oxide powders to impart excellent antistatic effect to the powders for a long time.

IT 853798-53-5P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (phosphorylcholine-based antistatic agents giving long-lasting effect to powders, textiles, molded plastics, and silicon wafers)

RN 853798-53-5 CAPLUS  
 CN 3,5,13-Trioxa-8-aza-4-phospha-12-silatetradecan-1-aminium, 4-hydroxy-12,12-dimethoxy-N,N,N-trimethyl-7-oxo-, inner salt, 4-oxide (CA INDEX NAME)



L3 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2006:33965 CAPLUS

DOCUMENT NUMBER: 144:114598

TITLE: Modification of material surfaces with phosphorylcholine group-containing compounds

INVENTOR(S): Sumida, Yoshimitsu; Miyazawa, Kazuyuki

PATENT ASSIGNEE(S): Shiseido Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006008987	A	20060112	JP 2005-130686	20050428
PRIORITY APPLN. INFO.:			JP 2004-151145	A 20040521

OTHER SOURCE(S): MARPAT 144:114598

AB Phosphorylcholine group-containing compds. R<sub>4</sub>(CH<sub>2</sub>)<sub>n</sub>O(=O)(O-)(CH<sub>2</sub>)<sub>m</sub>N+R<sub>1</sub>R<sub>2</sub>R<sub>3</sub> (I; R<sub>1</sub>-R<sub>3</sub> = C<sub>1</sub>-6 linear or branched alkyl; R<sub>4</sub> = carboxyl; n = 1-12; m = 2-4) are converted into carboxylic acid halides and directly introduced into material surfaces by forming covalent bonds for surface modification of the materials. Materials having hydrophilic and biocompatible surfaces are obtained. Alternatively, I are introduced into material surfaces after conversion into carboxylic acid halides and condensation with amino-containing silane coupling agents or olefin-containing amines or alcs. Glycerophosphorylcholine was treated with NaIO<sub>4</sub> in the presence of RuCl<sub>3</sub> in a H<sub>2</sub>O-MeCN mixture to give HO<sub>2</sub>CCH<sub>2</sub>OP(=O)(O-)(CH<sub>2</sub>)<sub>2</sub>N+Me<sub>3</sub> (II). II was stirred with SOCl<sub>2</sub> in DMF, mixed with Et<sub>3</sub>N, and 3-aminopropyltrimethoxysilane-treated glass plate was placed in the reaction mixture at room temperature overnight to give a phosphorylcholine-treated

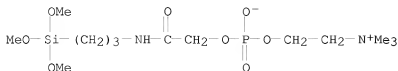
glass plate. The amts. of bovine serum albumin adsorbed on the phosphorylcholine-treated glass plate and on untreated glass plate were .apprx.0.005 and .apprx.0.1 μg/cm<sup>2</sup>, resp.

IT 853798-53-5P

RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(modification of material surfaces with phosphorylcholine group-containing compds. via covalent bonds for improved biocompatibility and hydrophilicity)

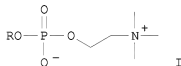
RN 853798-53-5 CAPLUS

CN 3,5,13-Trioxa-8-aza-4-phospha-12-silatetradecan-1-aminium, 4-hydroxy-12,12-dimethoxy-N,N,N-trimethyl-7-oxo-, inner salt, 4-oxide (CA INDEX NAME)



L3 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 2005:1281981 CAPLUS  
 DOCUMENT NUMBER: 144:33864  
 TITLE: Chromatography filler with mixed GFC/ion exchange/reversed phase mode  
 INVENTOR(S): Tojo, Yosuke; Kanda, Taketoshi; Kutsuna, Hiroshi  
 PATENT ASSIGNEE(S): Shiseido Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 27 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005337713	A	20051208	JP 2004-152675	20040524
JP 4371900	B2	20091125		
PRIORITY APPLN. INFO.:			JP 2004-152675	20040524
OTHER SOURCE(S):	MARPAT 144:33864			
GI				

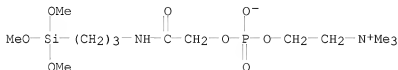


AB A chromatog. filler is provided, which actualizes the separation in a mixed state of GFC mode, an ion-exchange mode or/and a reversed phase mode with extremely less extent of non-specific and irreversible protein/peptide adsorption. The chromatog. filler is characterized in that a compound expressed by the formula (I), and a particular ion-exchange group or a hydrophobic group are directly bound to the surface of a base material (e.g., globular porous silica gel) via covalent bonds. In I, R represents an arbitrary modifying chain which optionally possesses at its arbitrary position more than one of or a combination of a branched structure, a unsatd. bond, a benzene ring, a nitrogen atom, an oxygen atom, a sulfur atom, a phosphorus atom, a silicon atom, a chlorine atom, a fluorine atom or a bromine atom.

IT 853798-53-5P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (chromatog. filler with mixed GFC/ion exchange/reversed phase mode)

RN 853798-53-5 CAPLUS

CN 3,5,13-Trioxa-8-aza-4-phospha-12-silatetradecan-1-aminium,  
4-hydroxy-12,12-dimethoxy-N,N,N-trimethyl-7-oxo-, inner salt, 4-oxide (CA  
INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
(1 CITINGS)

L3 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005:1261343 CAPLUS

DOCUMENT NUMBER: 143:482662

TITLE: Water-dispersible powder having phosphorylcholine  
surface for cosmetic preparation

INVENTOR(S): Sakuma, Kenichi; Miyazawa, Kazuyuki

PATENT ASSIGNEE(S): Shiseido Company, Ltd., Japan

SOURCE: PCT Int. Appl., 31 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

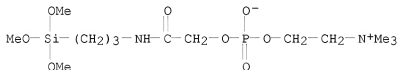
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005112871	A1	20051201	WO 2005-JP9079	20050518
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2006008661	A	20060112	JP 2005-136838	20050510
JP 3852942	B2	20061206		
PRIORITY APPLN. INFO.:			JP 2004-152676	A 20040524
			JP 2005-136838	A 20050510

OTHER SOURCE(S): MARPAT 143:482662

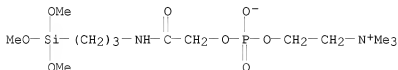
AB Disclosed is a water-dispersible powder for cosmetic preps. which is characterized in that a phosphorylcholine group represented by the formula  $\text{MeCH}_2\text{OP}(\text{:O})(\text{O}-)\text{OC}_2\text{H}_4\text{N}^+$  is directly covalent bonded to the powder surface. Also disclosed is a cosmetic preparation wherein such a water-dispersible powder is blended. Consequently, there can be obtained a cosmetic preparation in which a powder for cosmetic preps. having excellent dispersibility in water is stably blended. Thus,  $\text{OHCCH}_2\text{OP}(\text{:O})(\text{O}-)\text{OC}_2\text{H}_4\text{N}^+\text{Me}_3$  (I) was prepared from 1- $\alpha$ -glycerophosphorylcholine, and applied to

3-aminopropyltrimethoxysilane-treated kaolin to give a powder having phosphorylcholine surface. Also, I was treated with 3-aminopropyltrimethoxysilane to form a phosphorylcholine group-containing amine silane coupling agent, and reacted with zinc oxide powder to give another powder having phosphorylcholine surface. The obtained powders were mixed with other ingredients to make a cosmetic lotion.

IT 853798-53-5DP, reaction products with cosmetic powders  
 RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (Water-dispersible powder having phosphorylcholine surface for cosmetics, and preparation thereof)  
 RN 853798-53-5 CAPLUS  
 CN 3,5,13-Trioxa-8-aza-4-phospha-12-silatetradecan-1-aminium, 4-hydroxy-12,12-dimethoxy-N,N,N-trimethyl-7-oxo-, inner salt, 4-oxide (CA INDEX NAME)



IT 853798-53-5P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (Water-dispersible powder having phosphorylcholine surface for cosmetics, and preparation thereof)  
 RN 853798-53-5 CAPLUS  
 CN 3,5,13-Trioxa-8-aza-4-phospha-12-silatetradecan-1-aminium, 4-hydroxy-12,12-dimethoxy-N,N,N-trimethyl-7-oxo-, inner salt, 4-oxide (CA INDEX NAME)



REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005:1189262 CAPLUS

DOCUMENT NUMBER: 143:446859

TITLE: Ocular lens materials having phosphorylcholine surface, and manufacture thereof

INVENTOR(S): Sumida, Yoshimitsu; Miyazawa, Kazuyuki; Ishihara, Kazuhiko

PATENT ASSIGNEE(S): Shiseido Co., Ltd., Japan

SOURCE: Jpn. Tokkyo Koho, 14 pp.

CODEN: JTXFFF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese



FAMILY ACC. NUM. COUNT: 4  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 3715308	B1	20051109	JP 2005-136844	20050510
JP 2006011380	A	20060112		
WO 2005114303	A1	20051201	WO 2005-JP9081	20050518
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1750158	A1	20070207	EP 2005-741135	20050518
R: DE, FR, GB, IT				
CN 1957286	A	20070502	CN 2005-80016478	20050518
CN 100570435	C	20091216		
KR 2007022027	A	20070223	KR 2006-720168	20060928
US 20080300375	A1	20081204	US 2008-592774	20080818
PRIORITY APPLN. INFO.:				
			JP 2004-153256	A 20040524
			JP 2005-136844	A 20050510
			WO 2005-JP9081	W 20050518

## ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

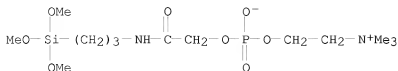
OTHER SOURCE(S): MARPAT 143:446859

AB The invention relates to an ocular lens material having phosphorylcholine surface for preventing protein absorption on the surface of the lens, which is obtained by reacting a lense material with a phosphorylcholine group-containing silane compound (X1)(X2)X3Si(CH2)mNHRP(:O)(O-)O(CH2)nN+ [m = 2-6; n = 1-4; -NH- can be substituted by -O-; X1, X2, X3 = Me, Et, Pr, iso-Pr, Bu, isobutyl; R = (CH2)L, CO(CH2)L, C2H4(NHC2H4)p]. Thus, a phosphorylcholine group-containing amine silane coupling agent was prepared from 1- $\alpha$ -glycerophosphorylcholine and 3-aminopropyltrimethoxysilane. A soft contact lense Etafilcon A was treated with the coupling agent to obtain a soft contact lense having phosphorylcholine surface.

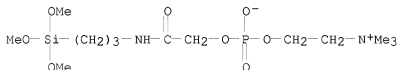
IT 853798-53-5P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(ocular lens materials having phosphorylcholine surface, and manufacture thereof)

RN 853798-53-5 CAPLUS

CN 3,5,13-Trioxa-8-aza-4-phospha-12-silatetradecan-1-aminium, 4-hydroxy-12,12-dimethoxy-N,N,N-trimethyl-7-oxo-, inner salt, 4-oxide (CA INDEX NAME)



IT 853798-53-5DP, reaction products with soft contact lenses  
 RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (ocular lens materials having phosphorylcholine surface, and manufacture thereof)  
 RN 853798-53-5 CAPLUS  
 CN 3,5,13-Trioxa-8-aza-4-phospha-12-silatetradecan-1-aminium, 4-hydroxy-12,12-dimethoxy-N,N,N-trimethyl-7-oxo-, inner salt, 4-oxide (CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)

L3 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005:523472 CAPLUS

DOCUMENT NUMBER: 143:43972

TITLE: Preparation of phosphorylcholine group-containing compounds as surface modifying agents

INVENTOR(S): Toujo, Yousuke; Miyazawa, Kazuyuki; Kanda, Taketoshi; Kutsuna, Hiroshi; Sakuma, Kenichi; Wada, Masayoshi; Suda, Yukimitsu

PATENT ASSIGNEE(S): Shiseido Company, Ltd., Japan

SOURCE: PCT Int. Appl., 61 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005054262	A1	20050616	WO 2004-JP17835	20041201
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,			

RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,  
MR, NE, SN, TD, TG

JP 2005187456	A	20050714	JP 2004-345739	20041130
JP 4086305	B2	20080514		
EP 1690867	A1	20060816	EP 2004-819845	20041201
R: DE, FR, GB, IT				
CN 1886413	A	20061227	CN 2004-80035115	20041201
CN 100549018	C	20091014		
KR 2006121810	A	20061129	KR 2006-703059	20060214
US 20080214855	A1	20080904	US 2008-580874	20080416
PRIORITY APPLN. INFO.:			JP 2003-402725	A 20031202
			JP 2004-345739	A 20041130
			WO 2004-JP17835	W 20041201

## ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 143:43972

AB Disclosed is a phosphorylcholine group-containing compound represented by  $X1X2X3Si-(CH2)m-NH-P(=O)(O-)-O-(CH2)nN+Me3$  [m is 2-6 and n is 1-4; X1, X2 and X3 independently represent a methoxy group, ethoxy group or halogen and up to two of X1, X2 and X3 can be any of a Me group, Et group, Pr group, iso-Pr group, Bu group and iso-Bu group; and R represents  $(CH2)q$ , etc. (q = 1 - 6)]. Also disclosed are a surface modifying agent composed of such a phosphorylcholine group-containing compound, a modified powder treated with such a surface modifying agent, a filler for chromatog. composed of a modified carrier treated with such a surface modifying agent, a filter treated with such a surface modifying agent, and a glass product treated with such a surface modifying agent. Thus, treatment of L- $\alpha$ -glycerophosphorylcholine with sodium periodate in water, followed by reaction of the product with 3-aminopropyltrimethoxysilane and reduction by sodium cyanoborohydride, gave a mixture of (MeO)3Si(CH2)3NHCH2CH2-O-P(=O)(O-)-O-(CH2)2N+(Me)3 (I) and (MeO)3Si(CH2)3NH-CO-CH2O-P(=O)(O-)-O-(CH2)2N+(Me)3 (II). A mixture of I, II, and silica gel in methanol and water was refluxed for 5 h to give a powder; this powder was packed into a column for chromatog. : good separation of serum proteins using said column was obtained.

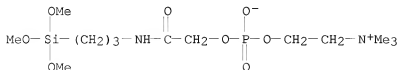
IT 853798-53-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of phosphorylcholine group-containing compds. as surface modifying agents)

RN 853798-53-5 CAPLUS

CN 3,5,13-Trioxa-8-aza-4-phospha-12-silatetradecan-1-aminium, 4-hydroxy-12,12-dimethoxy-N,N,N-trimethyl-7-oxo-, inner salt, 4-oxide (CA INDEX NAME)

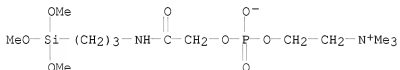


IT 853798-53-5DP, product of reaction with borosilicate glass

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of phosphorylcholine group-containing compds. as surface modifying

agents)  
 RN 853798-53-5 CAPLUS  
 CN 3,5,13-Trioxa-8-aza-4-phospha-12-silatetradecan-1-aminium,  
 4-hydroxy-12,12-dimethoxy-N,N,N-trimethyl-7-oxo-, inner salt, 4-oxide (CA  
 INDEX NAME)



OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD  
 (9 CITINGS)  
 REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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---Logging off of STN---

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Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
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FULL ESTIMATED COST	84.15	275.91
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-11.05	-11.05
STN INTERNATIONAL LOGOFF AT 14:23:51 ON 29 MAY 2010		